

MONTHLY NOTICES

OF THE

ROYAL ASTRONOMICAL SOCIETY.

VOL. XXIII.

March 13, 1863.

No. 5.

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On the Fringes of Light observed by M. Poulain at Goree during the Total Eclipse, 31st December, 1861. By M. Hermann Goldschmidt.

(*Extract from a Letter addressed to the Astronomer Royal.*)

I have seen in the *Monthly Notices* (which the Royal Astronomical Society kindly send me) the interesting drawing you laid before the Society, representing the fringes of light observed by M. Poulain at the total eclipse observed at Goree on the 31st Dec. 1861.

Allow me, Sir, to give you some details on the same object, concerning the conversation with the Spanish countryman who journeyed for some hours in our company in going from Vitoria to Bilbao. He stated that before the totality of the Eclipse of 1860, seen by him on a high mountain, yellow spots were seen flitting over their white clothes from West to East. He compared the colour with the most yellow flowers (like the *Ibericum*) we saw on the road. There is, indeed, no useful scientific information in this relation, but it confirms the direction of the movement observed by myself on the annular Eclipse of the year 1820, and mentioned by me in the descrip-

tion of the Solar Eclipse of the year 1860 (see *Astron. Nachrichten*, No. 1340, p. 308). It may be of some interest to give you the whole description of what I had seen in Frankfort-on-the-Maine on the afternoon of the 7th September, 1820.

I was in my uncle's house, one hundred and twenty paces only from my father's, when the darkness began. I left the house; but I had scarcely gone twenty paces in the street, from East to West exactly, when I saw the moving shadows coming towards me, covering the large and deserted street, and passing under my feet. Their movement was slow, for otherwise I could not have perceived them so distinctly, with the eyes so nearly fixed on them; the movement was not rapid. The aspect was like the shadow of smoke in sunshine—regular in translation; the forms, like rhomboids of four or six inches in diameter, and sometimes more extensive, were mixed with superposed shadows of the same size, and ribbon-like forms. The inner spaces particularly, filled with round spots softly melted and mixed with the whole in veiled grey transparency, gave to the phenomenon a somewhat mysterious appearance. Thus, looking to the paved street, these ribbons and spots flitted under my feet, till I arrived at a group of men near my father's house, after having made one hundred steps in contemplating this strange apparition. At this moment the annular eclipse was forming: the light of the Sun ran around the Moon in a very singular manner—it seemed like a fluid mass. I can truly estimate the time from the moment when I saw the shadows till the forming of the annulus—an interval of two minutes and thirty seconds.

I spread a large white cloth at my feet in Vitoria, but I had no time to look on it, absorbed by other business and the people who rushed in.

I had recommended this observation to Captain Manheim, who really saw the fringes at Constantine in the year 1860.

Paris, February 2nd, 1863.

On the Determination of the Longitude of Valencia, in Ireland, by Galvanic Signals, in the Summer of 1862.
By G. B. Airy, Esq., Astronomer Royal. (Abstract.)

The Astronomer Royal adverts to the operation effected in 1844 for the determination of the longitude of the Feagh Main Station, in Valencia, by the transmission, ten times in both directions, of thirty pocket-chronometers, between Greenwich and Feagh Main; a transit instrument having been erected at Feagh Main, and the chronometers being compared with the transit-clocks at Greenwich and Feagh Main. Advantage was taken of the passage through Liverpool and